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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,933	01/24/2005	Peter Tass	23158	8318

535 7590 11/18/2008
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EXAMINER	
D ABREU, MICHAEL JOSEPH	

ART UNIT	PAPER NUMBER
3762	

MAIL DATE	DELIVERY MODE
11/18/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/522,933	TASS, PETER	
	Examiner	Art Unit	
	Michael D'Abreu	3762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 July 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to Amendment filed on 25 September 2008. Claims 1-38 are pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-7, 9-19, 24-33, 37, & 38 are rejected under 35 U.S.C. 102(b) as being anticipated by John (3780724).

4. Regarding Claims 1-6 & 38, John discloses a device capable of testing a patient for neuronal rhythmic activity comprising of a control unit inherently evoking physiological brain activity (e.g. Column 3, lines 15-28; Claim 1). The device has several testing methods (e.g. Col 7-8), including one which generates a predictable periodic succession of pulses to control the phase dynamic of the neuronal rhythmic activity, followed by a desynchronization pulse to abruptly desynchronize the neuronal rhythmic activity (e.g. Col 7, line 44 – Col 8, line 9) with or without a pre-determined rest or time delay (e.g. Col 8, lines 1-9). John specifies that the patient is stimulated visually and acoustically via a light or speaker as a stimulator (e.g. Col 3, lines 29-34). Means for detecting brain activity are further disclosed through scalp EEG electrodes (e.g. Col 3, lines 15-20), which are connected to the control unit by an amplifier (e.g. Col 3, lines 20-

27). Furthermore, the device has feedback of patient reaction and connected to the control unit (e.g. Col 2, lines 21-47).

5. Concerning Claims 7, 8, & 10, John's device carries out frequency scans (e.g. Col 4, lines 15-20), quantifies neuronal activity (e.g. Col 2, lines 23-30), and is designed to have the stimulator directly connected and activated by the control unit (e.g. Col 3, lines 62-67).

6. With respect to Claims 11-13, the apparatus as disclosed by John describes a T test computer, capable of investigating signals measured by the sensors through the use of the wavelet analysis (e.g. Col 4, lines 15-20). Furthermore, the device registers the change in the amplitude of the rhythm to be excited by recording that response (e.g. Col 4, lines 23-25).

7. Claims 14 & 15, John's device has various testing methods including means for carrying out an entrainment (e.g. Col 7, lines 5-20) and desynchronization (e.g. Col 7, lines 44-50).

8. Regarding Claims 16-19, the T test computer in John's device is configured to test the quality of the entrainment (e.g. Col 4, lines 16-40) by determining the phase of the neuronal rhythms by matching the signals. The phase and amplitude of the neuronal activity is then evaluated (e.g. Col 4, 41-62).

9. With respect to Claims 24-27 and 33, John's device determines the vulnerable phase of the neural signal as defined by the applicant by varying the time spacing between the last excitation of the entrainment and the desynchronizing excitation signal (e.g. Col 8, lines 10-24). In one method, the device also changes the variation in time

spacing for different values of intensity and in another method, increases the intensity in equidistant steps (e.g. Col 8, lines 18-22).

10. Regarding Claims 28 and 29, the prior art enables optimum stimulation parameters to be determined through the comparison of the results of multiple testing stimulations from where a minimization of the amplitude can be obtained (e.g. Cols 7-9).

11. Claim 37 is anticipated by John's device as the stimulation is monitored by a program, in conjunction with a timer and switch (e.g. Col 3, 34-40).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. Claims 9 and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over John (3780724) in view of Nagano (5771443). John discloses the device substantially as claimed; however, specific means of quantifying neuronal activity or detecting stimulation parameters are not disclosed. The examiner notes that the applicant fails to disclose a clear or definitive advantage behind using the Hilbert transformation, matching a sine function, or integrating amplitude of power spectrum over frequency band over any other form of wavelet analysis. Nagano discloses the use of Hilbert transformation and other forms of wavelet analysis in the measurement and analysis of frequency deviation (e.g. Col 7). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method taught

by John, in view of the wavelet analysis of Nagano, to provide the predictable results of a more detailed examination of the neural activity.

14. In reference to Claim 23, John teaches the method as substantially as claimed. Although the amplitude response is analyzed by John's device in order to find marked differences between the responses (e.g. Col 7, lines 30-43), John does not plot the data as amplitude resetting curves in the analysis of neuronal activity. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to plot these data points in order to provide the predictable results of visually presenting the responses as figures rather than numbers. The applicant makes a graph of the amplitude data points - but the computer is still analyzing the data points in the same manner as the prior art. Plotting a set of data points on a graph to visually present a curve is common in basic experimentation and is not any sort of improvement.

15. Claims 20-22 and 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over John (3780724) in view of Czeisler (5545192). John discloses the device substantially as claimed. However, John's device does not employ the use of phase resetting curves in neural analysis. Czeisler uses phase resetting curves in the analysis of circadian rhythm. It would have been obvious to one of ordinary skill in the art to modify the method taught by John, to include phase resetting curves in order to provide the predictable results of projecting and analyzing the neural activity of the patient. Furthermore, John's device discloses the use of a T-test computer which is able to quantitatively analyze the response and phase dynamics of the desynchronizing neuronal activity both before and after stimulation (e.g. Cols 4-6).

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael D'Abreu whose telephone number is (571)270-3816. The examiner can normally be reached on Monday - Friday, 0600 - 1630 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Sykes can be reached on (571) 272-4955. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. D./
Examiner, Art Unit 3762

/George R Evanisko/
Primary Examiner, Art Unit 3762